

REMARKS

INTRODUCTION

In accordance with the following, reconsideration of the allowability of the claims is respectfully requested.

Claims 1-7 are pending and under consideration.

OBJECTION TO DRAWINGS

FIGS. 1 and 2 have been objected to for not including a "PRIOR ART" label. Accordingly, the attached replacement sheet for FIGS. 1 and 2 includes the appropriate "PRIOR ART" labels.

TAKING OF OFFICIAL NOTICE

The Office Action has taken Official Notice of several claimed features. In particular, the Office Action has taken Official Notice that: the applicant's claimed diameter size "is typical of the state of the art for the purpose of fusing the toner image at an adequate speed without making the image forming apparatus too large;" the use of silicone rubber as an outside layer would have been obvious since "it is typical in the art to use silicon rubber for the purpose of preventing toner from adhering [to] the fusing roller (preventing toner offset);" the use of a heat resistive adhesive to secure layers of the heating roller "is one of many ways one can manufacture a multi-layer roller so that the layers do not separate;" and the corresponding motivation for each such modification to the underlying reference.

However, it is improper to merely deem something obvious without any teaching/suggestion, or the taking of Judicial Notice. If the U.S. Patent and Trademark Office wishes to take Judicial Notice that the claimed structural modification is notoriously well known, it is respectfully requested that supporting evidence be provided. The Federal Circuit has cautioned that an Examiner **must show reasons** that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. In re Rouffet, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

In addition, it is further noted that Official Notice unsupported by documentary evidence should be only be taken by the Examiner where the facts asserted to be well known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known and only when such facts are of notorious character and serve only to "fill in the gaps" which might exist in the evidentiary showing made by the Examiner to support a particular ground of rejection.

Further, the applicant should be presented with the explicit basis on which the Examiner regards the matter as subject to official notice sufficient to allow the applicant a proper opportunity to challenge that assertion.

Lastly, as recited in In re Eynde, "we reject the notion that judicial or administrative notice may be taken of the state of the art. The fact constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice." In re Eynde, 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973).

Herein, the above recited taking of Official Notice merely recites what the Examiner believes to be either the "state of the art" or what the Examiner believes is well known. However, each claimed feature has been disclosed in the present application for a particular reason, and as discussed below they would not have been obvious alterations of the underlying references. The fact that such features exist does not mean that their addition to the underlying reference is automatic, or that the facts asserted are well known.

The aforementioned taking of Official Notice does not merely "fill in the gaps," rather they are particular features distinguishing the presently claimed invention over previous inventions.

In addition, the taking of Official Notice does not remove the still required prima facie obviousness requirement of motivation, which the Office Action would appear to also be taking Official Notice of.

Accordingly, it is respectfully submitted that the present taking of Official Notice is improper. In addition, applicant respectfully requests any further Office Actions particularly provide support for the aforementioned Official Notice statements.

In addition, if any future Office Actions maintain the outstanding Official Notice, applicants similarly request evidence be provided supporting the **required motivation** underlying each modification of the underlying reference(s) to include the Official Notice taken feature(s).

REJECTIONS UNDER 35 USC 103

Claims 1-7 stand rejected under 35 USC § 103(a) as being obvious over Lee, EP 1,217,466, in view of Hirst et al., U.S. Patent No. 6,512,913. This rejection is respectfully traversed.

By way of review and as an example, independent claim 1 set forth:

"[a] fusing device for an electrophotographic image forming apparatus, the device comprising:

- a fusing roller with an outer rubber roller;
- a heating pipe disposed in the center of the fusing roller;
- a heating element disposed on the outer surface of the heating pipe; and
- a pressing roller which closely adheres paper passing between the pressing roller and the fusing roller to the fusing roller."

As noted above, the outstanding Office Action has taken Official Notice that the use of an outer rubber roller as the claimed fusing roller is well known, and therefore obvious.

However, as commonly understood, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art..."[the Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992). In addition, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. Id. at 1783-84.

MPEP § 2142 further states that "[w]hen the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper." The Examiner is required to present actual evidence and make particular findings related to the motivation to combine the teachings of the references. In re Kotzab, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); In re Dembiczak, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Further, the factual inquiry must be based on objective evidence of record, and cannot be based on subjective belief and unknown authority. Id. at 1433-34. The Examiner must explain the reasons that one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. In re Rouffet, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

Thus, it is respectfully submitted that the outstanding obviousness rejection fails to meet a prima facie obviousness standard. The recited motivation for modifying Lee is merely that the use of silicon rubber is (arguably) well known for "preventing toner from adhering the fusing roller (preventing offset)," and therefore obvious.

However, this recited motivation is merely a conclusion without evidence. There is no support in the record that Lee would need or desire a rubber outer layer. In addition, there is no support in the record that the use of silicon rubber is well known in similar fusing rollers with heating pipes, rather the recited motivation is merely a conclusion without evidence.

In particular, Lee specifically details that the fusing roller should have a metallic outer layer that has excellent heat transferring properties, so that the heat from the heating pipe is instantaneously transferred to the fusing roller. See Lee on paragraph [0080], requesting a "metallic fusing roller having excellent conductivity, so that the surface of the fusing roller can be instantaneously heated up to a target fusing temperature to fix toner images that have been transferred to a print paper."

Lee similarly provides examples where the fusing roller is copper, in paragraph [0074], or aluminum with a higher hardness than aluminum spacers 213' between coils of heating unit 213, in paragraph [0060].

Thus, Lee particularly preferred the fusing roller to be metallic with instantaneous heat conductivity. Which would appear contrary to the Office Action's assertion that it would have been obvious to merely replace the metallic fusing roller of Lee with a silicon rubber fusing roller, only for the reason that other systems in the same field may have used silicon rubber "for the purpose of preventing toner from adhering [to] the fusing roller."

Accordingly, Lee teaches away from the merely replacement of the metallic fusing roller to a rubber fusing roller. Only the present application would provide such motivation.

In addition, the relied upon motivation, i.e., that other systems in the same field may have used silicon rubber "for the purpose of preventing toner from adhering [to] the fusing roller," would appear to be further unsupported by Lee.

Lee particularly indicates that the metallic fusing roller further includes "a protective outer cylindrical layer 211, which is formed on the surface thereof by coating with Teflon," in paragraph [0037].

Thus, the recited motivation is not appropriate for Lee, as Lee does not need any alteration to prevent toner from adhering to the fusing roller. The Teflon protective surface would appear to perform this function already.

Therefore, the recited motivation that other systems in the same field may have used silicon rubber "for the purpose of preventing toner from adhering [to] the fusing roller," is not applicable to Lee.

As detailed in the present application, compared to Lee which uses a metallic fusing roller, embodiments of the present invention have removed the need or desire to have a metallic fusing roller by using heat resistant silicon rubber for the fusing roller. As detailed in the specification in paragraph [0027], the use of the rubber fusing roller permits the generation of a fusing nip having "a predetermined length, i.e., 6-7 mm, so as to aid fusing of the paper 150 which passes quickly in a high-speed laser printer."

Thus, contrary to the teaching of Lee, embodiments of the present invention use a rubber fusing roller. The high temperatures resident at the fusing roller have been further overcome by further embodiments requiring the rubber to be silicon rubber, which is resistant at high temperatures. In addition, paragraph [0043] of the present application, further provides an example where there is a heat gradient across the rubber fusing roller, such that the innermost surface of the rubber fusing roller may be 40-60 C higher than the outer surface of the rubber roller. These references to the specification are merely made for illustrative purposes to emphasize that the use of rubber is purposeful and inventive over the prior systems, e.g., Lee, and should not be interpreted to limit the invention to the same.

The Office Action takes note of Hirst et al., indicating that Hirst et al. discloses the use of a silicon rubber outer surface fusing roller.

However, in Hirst et al. the heating method is through an internal heating element, e.g., a halogen lamp. Lee explains in paragraphs [0003]-[0009] that such conventional heating techniques either require extremely long heating times, require increases in the volume of the fusing roller apparatus, or complicate fabrication and manufacture.

Thus, though Hirst et al. illustrates the use of silicon rubber for an outer surface of the fusing roller, this system is for a conventional convection generating heating method.

The present application in paragraph [0043] provides an example of the problems associated with the use of silicon rubber in systems that have more instantaneous heating methods, like the presently claimed invention or those of Lee, i.e., that when a rubber outer surface is capable of being heated instantaneously additional consideration must be taken to prevent overheating the rubber roller. Thus, in such instantaneous systems as Lee the use of rubber outer surfaces may not be preferred because of the now available instantaneous heat transition.

Systems like Hirst et al. did not have to deal with such issues, as the heating transition was through the slower convection method and the outer surfaces could be heated gradually.

In addition, Lee particularly uses a metallic fusing roller, in a heating system substantially different from that of Hirst et al.

It is respectfully submitted that only the present application provides embodiments that permit the use of a rubber outer surface of the fusing roller in such instantaneous fusing roller systems.

Lastly, similar to above, although Hirst et al. illustrates the use of a rubber outer surface for a fusing roller, there must still be evidence in the record for such a modification of Lee. Contrary to this, it is noted that the fact that Lee does not discuss the use of rubber outer surfaces, when the Office Action indicates that the same is well known, is actually evidence that the same would not be an obvious modification of Lee.

Accordingly, in view of the above, it is respectfully submitted that it would not have been obvious to modify Lee as proffered in the outstanding Office Action.

Therefore, for at least the above, it is respectfully requested that this rejection of claim 1 be withdrawn and claim 1 be allowed. In addition, for at least similar rationale, it is respectfully submitted that claims depending from independent claim 1 are also in proper condition for allowance.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Serial No.: 10/625,900

Docket No.: 1293.1781

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

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Respectfully submitted,
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AMENDMENTS TO THE DRAWINGS:

The attached drawing includes changes to FIGS. 1 and 2. The replacement sheet containing FIGS. 1 and 2 replaces the original sheet including FIGS. 1 and 2.